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ABSTRACT

Two studies were conducted to test Francis Christensen's theory of generative rhetoric, which maintains that students should be taught the types of sentences that they infrequently use, especially ones with nonrestrictive phrasal modifiers (participial phrases and appositives) as a way to approach invention. The first study examined the principles of generative rhetoric as they applied to college writers and skilled adult writers. The second study assessed the effectiveness of generative rhetoric instruction in college writing classes. Findings of the first study showed that the frequency and placement of nonrestrictive modifiers seemed to be the major distinguishing syntactic features between late secondary school and early college prose and the prose of skilled writers. The second study showed that students who were taught generative rhetoric displayed greater clause length in their writing than students who were taught sentence combining. Together, these findings suggest that controlled syntactic practice is primarily responsible for the syntactic increases attributed to sentence combining at the college level, and that instruction in nonrestrictive modifiers is more important for college students than the activity of combining sentences. (Topics used in the two studies and tables of resulting data are appended.) (HOD)

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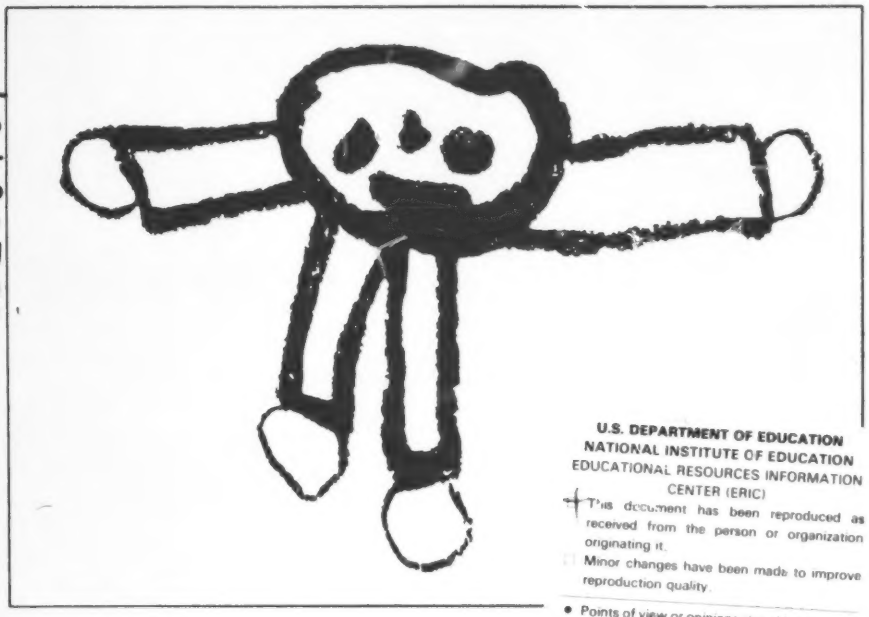

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A SYNTACTIC APPROACH TO COLLEGE WRITING: AN ANALYSIS OF THEORY AND EFFECT

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Contents

	Preface	1
1	Introduction	3
2	The Theory of Generative Rhetoric	6
3	Validity of Christensen's Assumptions About Prose Style	17
4	The Effectiveness of Christensen's Pedagogy for College Writers	24
5	Discussion	31
	Appendix *Essay Topics Used in Generative Rhetoric Experiment* *Tables*	45
	References	55

In November 1972, educators from several parts of the United States met at the University of North Dakota to discuss some common concerns about the narrow accountability ethos that had begun to dominate schools and to share what many believed to be more sensible means of both documenting and assessing children's learning. Subsequent meetings, much sharing of evaluation information, and financial and moral support from the Rockefeller Brothers Fund have all contributed to keeping together what is now called the North Dakota Study Group on Evaluation. A major goal of the Study Group , beyond support for individual participants and programs, is to provide materials for teachers, parents, school administrators and governmental decision-makers (within State Education Agencies and the U.S. Office of Education) that might encourage re-examination of a range of evaluation issues and perspectives about schools and schooling.

Towards this end, the Study Group has initiated a continuing series of monographs, of which this paper is one. Over time, the series will include material on, among other things, children's thinking, children's language, teacher support systems, inservice training, the school's relationship to the larger community. The intent is that these papers be taken not as final statements--a new ideology, but as working papers, written by people who are acting on, not just thinking about, these problems, whose implications need an active and considered response.

Vito Perrone, Dean
Center for Teaching & Learning,
University of North Dakota

Preface

This report examines Francis Christensen's theory of generative rhetoric both as a rhetorical theory and as a method of teaching college writing. Besides the discussion of both aspects of Christensen's theory, this report contains two studies. The first study is an examination of the principles of generative rhetoric as they apply to college writers and skilled adult writers. This examination was carried out by Lester Faigley and Thomas Clemens. The second study assesses the effectiveness of generative rhetoric instruction in college freshman writing classes. It was completed by Faigley, Clemens, and Norton Kinghorn.

The authors wish to thank several people and institutions who assisted them in this research. James Coomber of Moorhead State University, Andrew Kerek of Miami University, and Ellen Nold of Stanford University made suggestions concerning the research design of the pedagogical experiment and commented on resulting manuscripts. John Williams served as the main statistical consultant and also advised us on the research design. Dan and Judy Sheridan contributed in several ways, particularly in helping to devise the writing assignments and in the main experiments. Elizabeth Ciner of St. Olaf College assisted us greatly by organizing and conducting the holistic evaluation. Wayne Bowen and Stephen Witte of the University of Texas read and commented on the final draft of this manuscript.

None of the research could have been done without the willingness of participating teachers to alter their routines and even teach new courses for these studies. The teachers included Mary Ellen Caldwell, Bonniejean Christensen, Ben Collins, Kathy Collins, Doug Gronberg, Debbie Kauffman, and Sue Sears. Robert Lewis, department chair, made available sections of freshman English classes for these experiments, and he helped us to match staff members for the pedagogical experiment.

Syntactic analyses were completed with the help of Tim Heintzman, Chris Kling, Gene Olson, and Diane Torgerson. All worked conscientiously and accurately. Of great help to us every day were Ursula Hovet and Gloria Yorek, who assisted us in record-keeping, the typing of manuscripts, and many other tasks.

Finally, we wish to thank the University of North Dakota Faculty Research Committee and the University of

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1

Introduction

Since the publication of Braddock, Lloyd-Jones, and Schoer's *Research in Written Composition* in 1963, research in writing has diversified from its almost exclusive pedagogical direction up to that time. Following that study, important works were published on the composing process, on theories of discourse, on basic writing, and on various linguistic aspects of composition. Together these studies have shown us how little we know about the composing process and about the nature of written discourse. Some researchers consequently have called for a moratorium on pedagogical research (e.g., Sommers, 1978). Cooper and Odell (1978), for example, point to the plethora of instructional studies, many of which simply test faddish approaches to writing. They question the need for further pedagogical research until more is understood about how effective writers write and what characterizes effective writing.

Each researcher attempting pedagogical research needs to consider these objections. Research in written composition has yet to establish a theoretical base to support definitive methodological research. Still there are strong reasons for continuing pedagogical research. The first and most obvious of these is public demand for accountability in education, particularly in regard to writing skills. During the latter half of the 1970s, numerous articles in newspapers and popular journals directed public attention toward the verbal skills of young Americans. These articles claim, primarily on the basis of nationally administered standardized tests, that verbal skills, including writing abilities, are declining at all levels of education. While the reasons given for the decline are diverse, ranging from permissive standards and television to structural linguistics and *Webster's Third New International Dictionary*, nearly all of the articles share the conclusion of the *Newsweek* article, "Why Johnny Can't Write": "...the U.S. educational system is spawning a generation of semiliterates" (December 8, 1975, p. 58).

Colleges and universities in particular have felt the pressure of these charges. Complaints about the writing competency of college graduates have come from graduate schools and from business and industry. It is commonplace to find in-house writing classes in these places aimed at teaching college graduates how to write.

At many colleges and universities, freshman English, the course traditionally devoted to the development of writing abilities, has come under close scrutiny.

Freshman English programs have varied widely, with some institutions continuing the course essentially as an introduction to literature, others opting for "thematic" presentations, and still others concentrating on subjects such as linguistics or logic. But increasingly the drift has been to give to freshman English the exclusive job of teaching expository writing.

Critics argue that the subject matter of freshman composition is unteachable, that a course meeting three hours a week for one or two semesters cannot hope to teach a skill a student has failed to acquire in twelve years of public education, and that whatever gains a student makes in writing ability are likely to evaporate before graduation, since many college courses rely on multiple-choice examinations for evaluation. University administrators, however, consider this position untenable. Rather than reducing or abolishing the freshman English requirement, many colleges and universities have recently added other required courses in writing. If these resources which colleges are now diverting to the teaching of writing are not to be wasted, we as educators need to know how to make use of them.

A second reason for conducting pedagogical research is to seek answers to questions raised by recent studies. While theoretical consideration of writing should not be disregarded, recent research in sentence-combining* has raised several theoretical questions about the composing process and about how to measure effective writing. The success of sentence-combining experiments in increasing the level of syntactic maturity and subjectively-judged writing quality among secondary and college writers has led researchers to ask why sentence-combining works and whether the effect is different at different levels of instruction (Kerek, 1978; Mellon, 1979). Do raters, for example, rank papers of sentence combiners higher because of superior sentence structure, or is the content of these papers improved as well? Does sentence-combining succeed because it improves students' attitudes toward writing, or does it touch deeper cognitive processes? Obtaining definitive answers for such questions is not always possible in a pedagogical experiment, but researchers can accommodate in a research design ways of gathering associative evidence that addresses these theoretical problems.

Finally, we have undertaken this study to fill a void. The pedagogical approach tested here--known as either *generative rhetoric* or the *Christensen method*--has been widely used. Furthermore, its assumptions underlie much of the sentence-combining pedagogy to date. Yet until now no one has conducted a major study of generative rhetoric at any level, although several researchers had performed small experiments, each apparently without knowledge of any of the others.*

*Sentence-combining is a strategy for teaching syntactic skills. The student is asked to combine sets of minimal (kernel) sentences into single sentences through a variety of syntactic operations. Thus the sentences, "The boy stood on deck. The boy was eating peanuts. The boy was eating pecks of peanuts. The deck was burning," might be rewritten as, "The boy stood on the burning deck, eating peanuts by the peck."

*For example, analytical studies by Wolk (1970), Nold and Freedman (1977), King (1978), and pedagogical research by Palmer (1970), Miller (1972), Brooks (1975), Caldwell (1978), Bond (1972), Hazen (1972), and Hardaway (1969). These studies are summarized in Chapter 2.

Christensen's efforts comprise one of the few attempts at a complete pedagogy extending from the sentence to the composition as a whole. The program has been criticized for focusing too narrowly on narrative and descriptive modes of discourse. Nonetheless, Christensen's program is noteworthy because its pedagogical assumptions are based in a rhetorical theory, a theory which encompasses the three major divisions of classical rhetoric: Invention, Arrangement, and Style. By contrast, sentence-combining is only a technique. Rhetorical assumptions are not necessary to a given sentence-combining approach other than a general belief that such exercises enhance writing abilities. The lack of control of rhetorical variables has been one of the major weaknesses in sentence-combining studies to date. As a result we do not know whether the gains in overall quality reported in these studies were a result of improved skill in syntactic manipulation or improved skill in establishing relationships among ideas. The Strong text (1973) used in the Miami University sentence-combining experiment (Daiker, Kerek, and Morenberg, 1978; Kerek, Daiker, and Morenberg, 1979; Morenberg, Daiker, and Kerek, 1978), for example, contains many implicit assumptions about rhetoric and style. Harris and Witte (1980) point out that many of Strong's exercises have identifiable aims and modes. Presumably students in the Miami University sentence-combining study were encouraged to imitate patterns of development implicit in the Strong exercises. Kinneavy (1979) and Mellon (1979) both have argued that implicit rhetorical instruction may have influenced the qualitative gains among students taught sentence-combining in the Miami experiment.

A study of generative rhetoric is also potentially valuable because in some respects generative rhetoric is similar to sentence-combining. It requires controlled writing, though without combining sentences. Generative rhetoric also employs instructional practices widely used in sentence-combining programs such as extensive display of student writing using overhead projectors, dittos, or blackboards, and practice reading sentences aloud in class. Experiments in generative rhetoric and other syntactic approaches to composition such as imitation should throw light on exactly what is necessary to make sentence-combining work. Furthermore, such research, together with current theoretical research in the composing process, discourse structure, and discourse comprehension promises to advance the design of complete writing curricula.

2

The Theory of Generative Rhetoric

The theory of generative rhetoric was proposed by the late Francis Christensen in a series of four articles which appeared in *College English* and *College Composition and Communication* in 1963 and 1965. These four articles were later collected and published with two earlier articles published in *College English* in 1950 and 1957 as *Notes Toward a New Rhetoric* (1967). *Notes Toward a New Rhetoric* has been published in a second edition (1978), which includes three essays not published in the first edition. One of these three essays is "The Problem of Defining a Mature Style" (1968b), Christensen's answer to criticism of his theory from Mellon and others (see page 13). Christensen wrote a six-volume text for secondary students, *The Christensen Rhetoric Program* (1968a), and at the time of his death in 1970, he was at work on a text for college students, later completed by his widow, Bonniejean Christensen, titled *A New Rhetoric* (1976). Bonniejean Christensen has also published a one-volume summary of *The Christensen Rhetoric Program* (1979). Because of the wide influence of these texts, the pedagogy which the Christensens developed to teach the principles of generative rhetoric is often called the "Christensen method."

Generative Rhetoric as Rhetorical Theory. The principles of generative rhetoric have become familiar to composition teachers through the popularity of *Notes Toward a New Rhetoric* and the frequent inclusion of Christensen's essays in anthologies. The development of the theory can be traced through the essays in *Notes Toward a New Rhetoric.* Christensen's theory began as a reaction to traditional advice offered to students by composition teachers. In "Sentence Openers" (1967, 1978), Christensen attacked the notion (proposed in print by a composition teacher) that students should be forced or encouraged to open 75 percent of their sentences with an element other than the subject noun phrase. He refuted that advice by examining the sentences of some 20 prominent writers. He discovered that professional writers, on the average, begin 75 percent of their sentences with the subject noun phrases and use sentence openers other than the subject only 25 percent of the time.

Christensen proceeded to look for other traditional shibboleths that were contrary to the practice of professional writers. He examined sentences and paragraphs

with particular care and made the following observations: (1) the traditional prejudice in favor of the periodic sentence and against the loose sentence is not borne out in the practice of professional writers; (2) contrary to traditional definitions of "complexity" (based on number and variety of subordinate clauses per sentence), the sentences of professional writers achieved both length and richness of detail primarily through the use of various types of phrases; (3) the importance given the main clause in traditional discussions of the sentence is belied in the prose of skilled adult writers, where modification often supplies the bulk of the meaning; (4) the traditional preference for the "plain" style is ignored by professional writers, even such writers as Ernest Hemingway, who is often praised as having been the best practitioner of plain prose. Finally, Christensen (like others before and since) could not but conclude that all but a handful of textbooks and teachers offer advice on writing that completely ignores not only the actual practice of our best writers but also the discoveries of linguists about the nature of language; in effect, traditional methods and advice rest on notions of linguistic purity that tend to mortify and embalm the language.

From these discoveries Christensen moved to develop an alternate view of contemporary prose style and an alternate method for teaching writing. The theory from which the method of generative rhetoric derives rests on four principles:

1. *Addition.* Christensen found that the workhorse of sentences in the writing of many skilled adults is the "loose" or "cumulative" sentence, a right-branching sentence that places the base clause (Christensen's term for the main clause excluding nonrestrictive modifiers) early and briefly, and then adds nonrestrictive modifiers. These modifiers are more often phrasal than clausal--appositives, participial phrases, absolutes, and prepositional phrases.

2. *Direction of Movement.* A frequent sentence type in modern prose moves from a general statement in the base clause to more and more particular expressions of the same idea in nonrestrictive modifiers. As the sentence moves forward on the page, the modifiers that are added to the base clause elaborate, qualify, detail, and restate that basic idea.

3. *Levels of Generality.* Christensen found that the cumulative sentences of skilled adults often have more than one particularization. In the control of the experienced writer, sentences shift to increasingly "lower" levels of generality, building one modifier upon the other, sharpening the focus of the sentence

to a clear, detailed expression of the idea or image.

4. *Texture.* This fourth principle of Christensen's generative rhetoric is somewhat judgmental and has prompted controversy. Most advocates of generative rhetoric are inclined to prize a richly textured style (i.e., sentences containing many nonrestrictive modifiers) above a plainer style. However, this principle is also useful for distinguishing one style from another and for teaching the appropriateness of degrees of texture for various rhetorical situations.

What is perhaps most novel about these principles is that Christensen's notions of structure were predominantly *semantic*, while previous discussions of the sentence had been for the most part *syntactic* in nature. This aspect of Christensen's theory is not always understood. Syntax plays a subordinate role to disposition of ideas. For example, the traditional distinction between compound and complex sentences is syntactic. Christensen discusses subordination not in terms of subordinate clauses, but in terms of structures which are *semantically subordinate* to what they modify. In this respect, Christensen was far in advance of most of his contemporaries, and it was not until the works of European text linguists became familiar that semantic concepts of text structure came under systematic investigation in America.

Christensen illustrated these principles with examples from well-known writers. He exhibited structural levels with numbers, with the base clause at the first level of generality and nonrestrictive modifiers at lower levels of generality. He found two primary sequences of nonrestrictive modifiers. First are sentences that progressively descend in levels of generality. Christensen called this pattern of nonrestrictive modifiers a *subordinate* sequence. Christensen quoted this sentence by Sinclair Lewis as an example of a subordinate sequence (1978, p. 31):

1 He dipped his hands in the bichloride solution
and shook them,
2 a quick shake,
3 fingers down,
4 like the fingers of a pianist above the keys.

The second basic pattern occurs in a sentence where two or more nonrestrictive modifiers comment on the same referent in a *coordinate* sequence. The example is from Walter Van Tilburg Clark:

1 He could sail for hours,
  2 searching the blanched grasses below him with his telescopic eyes,
  2 gaining height against the wind,
  2 descending in mile-long, gently declining swoops when he curved and rode back,
  2 never beating a wing.

Both of the above examples are "cumulative" sentences, sentences with at least one nonrestrictive modifier at the end (such as this one). Nonrestrictive modifiers can and do appear frequently at the beginning of sentences and embedded in the middle of them.

A third type of sequence is a mixture of the coordinate and subordinate sequences, known as a *mixed* sequence. This example is from William Faulkner:

  2 Calico-coated,
  2 small-bodied,
    3 with delicate legs and pink faces in which their mismatched eyes rolled wild and subdued,
1 they huddled,
  2 gaudy motionless and alert,
  2 wild as deer,
  2 deadly as rattlesnakes,
  2 quiet as doves.

The mixed sequence is the most common sequence in sentences which include multiple nonrestrictive modifiers.

Another important feature of generative rhetoric is the extent to which the cumulative sentence can be used as a way of analyzing units of discourse larger than the sentence. Christensen believed that the paragraph is structurally a macrosentence. He found intuitive evidence that the paragraph was structurally similar to the cumulative sentence from the fact that many of his cumulative sentence examples could easily be translated to paragraphs if the nonrestrictive modifiers were made into complete sentences. The ability to restore reduced clauses to full clauses is explicated in standard transformational theory (Chomsky, 1965), but Christensen's interest, again, was more semantic than syntactic.

Christensen's notion of the base clause in a cumulative sentence and the topic sentence in a paragraph (both at level 1 in generality) corresponds to the *topic* or *theme* in Prague School theory.* Until recently, the only researchers in composition to incorporate this work directly have been Cummings, Herum, and Lybert (1971). The nonrestrictive modifiers and lower-level sentences are *comments*. The comments modify, extend, or illustrate the topic, whether the base clause of a cumulative sentence or the topic sentence of a paragraph.

Christensen applied his four principles of sentence structure--*addition*, *direction of modification*, *levels of generality*, and *texture*--to the structure of paragraphs.

*Some linguists of the Prague School might use the term "theme" to refer to the central idea or didactic content of a unit of discourse; the term "topic," to the subject matter. Both terms might be construed as referring to the traditional topic "sentence," but without locating those qualities in a single sentence, or necessarily in any syntactic unit of the paragraph or discourse.

The resulting diagrams of paragraphs closely resemble his diagrams of cumulative sentences. Like the cumulative sentence, structural relationships in paragraphs could be of two kinds, coordinate or subordinate. Coordinate relationships are represented at the same level of generality, subordinate relationships at one level lower. Christensen quoted the following text of Bronowski's as an example of a paragraph with a subordinate sequence:

> 1 The process of learning is essential to our lives.
> 2 All higher animals seek it deliberately.
> 3 They are inquisitive and they experiment.
> 4 An experiment is a sort of harmless trial run of some action which we shall have to make in the real world; and this, whether it is made in the laboratories by scientists or by fox-cubs outside their earth.
> 5 The scientist experiments and the cub plays; both are learning to correct errors of judgment in a setting in which errors are not fatal.
> 6 Perhaps this is what gives them both their air of happiness and freedom in these activities.
> (1978, p. 82)

Just as with the cumulative sentence, paragraphs can mix subordinate and coordinate sequences. Christensen's scheme allows for paragraphs which have no sentence at the highest level of generality. Such paragraphs, according to Christensen, are controlled by a topic sentence in a preceding paragraph or are illogically organized.

Generative Rhetoric as Pedagogy. Christensen's analytical method became the basis of his approach to the teaching of writing. He defined the aims of rhetoric in contrast to those of grammar:

> Grammar and rhetoric are complementary, but their procedures and goals are quite different. Grammar maps out the possible; rhetoric narrows the possible down to the desirable or effective. The key question for rhetoric is how to know what is desirable. (1978, p. 61)

For Christensen, what was effective could only be found in the practice of skilled adult writers. Hence, his pedagogy of generative rhetoric concentrates on those sentence types that they used with frequency. Most of the sentence lessons he devised teach the operations of nonrestrictive modifiers. In particular, Christensen stressed the use of phrasal modifiers, constructions rarely written by students. If students include any nonrestrictive modifiers at all, typically they are "which" clauses. Christensen felt that students should be taught the types of sentences that they infrequently

use, especially ones with nonrestrictive phrasal modifiers. The phrasal modifiers emphasized in Christensen's program are of four types:

Participial phrases, which often add a continuing action. For example, *The jogger ran along the path, stumbling over a tree root.*

Appositives, which either identify nouns (such as *Mr. Smith, my English teacher*) or qualify entire clauses or sentences (such as *On September 1, 1939, Germany invaded Poland, an action which began World War II in Europe*).

Absolute phrases, which usually focus on a part of something set in the base clause. They operate semantically much like a close-up shot in film. For example, *The girl sat nervously before the interview, her fingers tapping against the chair.*

Nonrestrictive prepositional phrases. Like the other nonrestrictive modifiers, these add detail not essential to the meaning of the base clause. For example, *In the heat of the battle General Hood took a shot that cost him his leg.*

Christensen's rhetorical theory goes beyond syntactic operations themselves. He saw the teaching of these structures as a way to approach invention. He was attracted to nonrestrictive modifiers not just because they are one characteristic of the style of skilled writers but also because he saw in their topic-comment relationship to the base clause a way to teach students to add the supporting details to their writing. For Christensen, the teaching of nonrestrictive modifiers became an invention heuristic, a way to teach students to reflect on and expand their ideas.

Christensen's exercises teach students to observe carefully and to describe accurately. He began with common and deceptively simply writing tasks. For example, he might ask students to observe what they could see out the window of their classroom. He would give them a simple base clause, something like *The student walked across campus*, and urge them to make that action particular, so as to discover what it was that made that particular student unique. The result might be something like *The student walked across campus, a canvas bag across one shoulder, two thick books in the other hand, going faster than the others as if in a hurry to get to class.*

Christensen felt that practice in nonrestrictive modifiers could generate the supporting detail that is characteristically absent from student writing. "Solving the problem of *how to say* helps solve the problems of *what to say*" (1968a, p. vi). He compared this kind of sentence practice to finger exercises on the piano. Furthermore, Christensen thought such exercises could be used to teach punctuation and to improve diction. Perhaps even more important for the improvement of student writing is Chrsitensen's emphasis on immediate observation and the continual urging in his teaching program for

students to support general statements with specific details.

EXTENSIONS BY OTHERS

Generative rhetoric, both as a rhetorical theory and as a pedagogical method, has had considerable influence among composition teachers and researchers since its initial publication. Textbooks using Christensen's ideas in one form or another are legion, and we will not attempt a survey of them here. To give but one example, Strong's *Sentence Combining: A Composing Book* (1973)--the text used in the Miami University sentence-combining experiment --devotes about a third of its contents to exercises that teach the operations of nonrestrictive modifiers. Strong's model sentences reflect Christensen's method of diagramming according to levels of generality.

The efforts that have been made to extend or modify the theoretical framework of generative rhetoric either as rhetorical theory or as pedagogy have taken two directions. First, attempts have been made to extend Christensen's analytical method from the paragraph to the essay as a whole. Second, there has been a reexamination of the kinds of semantic relationships that can exist in a stretch of discourse of any length. For a more complete overview of the works mentioned in this section and other views on structure in nonfiction prose, see Larson's chapter, "Structure and Form in Non-Fiction Prose," in *Teaching Composition: 10 Bibliographical Essays* (1976).

Christensen did not analyze discourse units above the paragraph level, but he did indicate that the principles of structure he described in sentences and paragraphs obtain for larger units of discourse. Others have suggested explicit ways of applying Christensen's notions of paragraph structure to the essay. Grady (1971), for example, proposed that the paragraphs in an expository essay are structurally similar to sentences in a paragraph. Comparable to the topic sentence in a paragraph is the introductory paragraph in an essay. In longer essays, the introductory sequence may run for several paragraphs. The remaining paragraphs, in Grady's view, comment on the topic introduced in the introductory paragraph or sequence of paragraphs. Conceptually, the paragraphs in the body of an expository essay are at lower levels of generality than the topic paragraphs, following the same principles of order that Christensen set out for the cumulative sentence and the paragraph. Paragraphs which introduce new material are said to be coordinate; paragraphs which amplify material in preceding paragraphs are said to be subordinate. D'Angelo (1974) proposed keeping the sentence as the basic structural unit of the essay. His method of analysis thus is very much like Christensen's method of analyzing paragraphs, except that D'Angelo does not stop at paragraph boundaries.

Shortly after Christensen published his "Generative Rhetoric of the Paragraph," Karrfalt (1968) pointed out the possibility of another basic semantic relationship besides subordination and coordination, a relationship which he called "completion."* Pitkin (1969) built upon Karrfalt's work, placing a *superordinate* relationship alongside Christensen's coordinate and subordinate relationships. The superordinate relationship is one in which a generalization follows a particular or set of particulars. Pitkin also argued for semantic units of discourse--units that he called "discourse blocs"--as the basic units for analysis. His argument parallels Rodgers' criticism of Christensen's paragraph theory (see below). Pitkin's "discourse blocs," however, differ from Rodgers' "stadia of discourse." Pitkin sees discourse blocs at a number of different levels, all arranged in a hierarchy.**

*In Karrfalt's description of the paragraph, sentences added by subordination are at lower levels of generality; sentences added by coordination are at the same level of generality; a sentence added by completion is on a *higher* level of generality than all the preceding sentences that can be perceived as a single semantic unit.

**Pitkin explained his use of these notions in two articles appearing eight years after he first published on generative rhetoric (1977a, 1977b).

CRITICISM OF GENERATIVE RHETORIC

In successive issues of *College Composition and Communication* immediately following the publication of "Generative Rhetoric of the Paragraph," Alton Becker's "A Tagmemic Approach to Paragraph Analysis" (1965) and Paul Rodgers' "A Discourse-Centered Rhetoric of the Paragraph" (1966) faulted Christensen's model and presented alternative views of paragraph structure. Becker proposed a semantic slot conception of paragraph structure based on tagmemic linguistic theory.† He criticized Christensen's model for its lack of a semantic theory adequate to explain coordinate and subordinate semantic relationships in formal terms. Becker's point was correct, for no semantic theory existed at that time (nor does today) which could explain precisely the operations of such semantic relationships. But Becker's "theory" was not different in kind from Christensen's theory of paragraph structure. His model, too, lacked an elaborated semantic theory. Furthermore, it seemed intuitively quite limited as it treated only two basic types of paragraph organization.

†Tagmemic linguistics views language structure as a hierarchical arrangement of functional positions or slots (e.g., "subject") and classes of morphemes, words, phrases, etc. (e.g., "noun phrase") which can be seen as filling those slots.

Rodgers' criticisms of Christensen's analytical model of the paragraph are more substantial. He argued that the paragraph is not so much a semantic unit as it is an orthographic unit: "paragraphs are not composed; they are discovered. To compose is to create, to indent is to interpret" (1966, p. 6). In certain media, such as newspapers where the narrow column format influences sentences to be punctuated as paragraphs, Rodgers is certainly right. Instead of the paragraph as the basic unit of discourse, Rodgers proposed semantic units which he called *stadia of discourse* (conceptual chunks of discourse, not often coincident with paragraph divisions). Rodgers also criticized Christensen for reinforcing the traditional concept of a topic sentence in a paragraph, a concept deriving from 19th century rhetoricians, believed by Rodgers and others to be prescriptive rather

than descriptive. On this point, Rodgers misunderstood Christensen's model, which places at the first level the sentence that is most abstract but not necessarily a sentence that expresses the main topic.

Like his analytical model, Christensen's method of teaching writing has prompted considerable scholarly discussion. The focus of this discussion has been on what constitutes a mature style. In "The Problems of Defining a Mature Style" (1968), Christensen took issue with Hunt's contention (1965) that clause length is the best indicator of mature writing among adults. Christensen argued that the long subject noun phrase--e.g., "An alternative evaluation research paradigm...."--is the hallmark of jargon, and that the skilled adults whom he examined used short base clauses in combination with a variety of nonrestrictive modifiers. Actually, Christensen and Hunt were not opposed on this issue. Because Hunt counted only full clauses, ones with finite subjects and verbs, the type of nonrestrictive modifiers that Christensen encouraged greatly inflate clause length.

Several teachers of composition, among them Johnson (1969), Tibbetts (1970), Walker (1970), and Winterowd (1975), have claimed that Christensen's definition of mature writing abilities is too limited to be of great use to students. Johnson argues against Christensen's insinuation that the "best" writers place the most words in final nonrestrictive modifiers. Johnson cites Edmund Wilson as an example of a noted writer who depends on relative and subordinate clauses more often than participial phrases, appositives, and absolutes. Tibbetts echoes the same objection and adds the charge that Christensen was too dependent upon fiction for his models. He accuses Christensen of the "fiction fallacy"--the application of fictional norms to nonfiction prose. We will analyze these criticisms further in the next chapter.

Walker suggests that final nonrestrictive modifiers are but one characteristic of mature writing. He points to several uses of parallelism in the prose of skilled adults that are rare among students at any level. He labels these kinds of parallelism "notable parallelism." While Walker's supplement to Christensen's definition of mature writing deserves serious consideration, "notable parallelism" is very difficult to define. Length alone is not a determinant. Students often repeat lengthy structures which would read better in abridged form. On the other hand, some of the most memorable examples of parallelism in world literature--for example, Caesar's *veni, vidi, vici*--are short. How to separate ordinary and "notable" parallelism remains unclear. Finally, Winterowd criticizes Christensen for concentrating on only six types of nonrestrictive modifiers and neglecting many other structures. Winterowd ignores Christensen's view that students need to be taught only those structures which they do not normally use in their writing.

Another criticism of Christensen's method of teaching writing has been that it does not teach students

"how to think." Johnson and Tibbetts both make the charge that Christensen's method does not teach students to recognize logical fallacies, to define issues, or to make value judgments. It is true that Christensen is no Richard Weaver, that he did not treat persuasive writing in detail in his program. But Christensen's method does contain a definite invention component which is concerned with the generation of ideas. What seems at issue is how transferable among different types of writing are the skills which Christensen attempted to foster. We will have more to say on this point, too, in Chapter 5.

RESEARCH IN GENERATIVE RHETORIC

In spite of the pervasiveness of Christensen's ideas in composition literature and the extensive use of his method of teaching, few research studies of generative rhetoric either as an analytical model or as a pedagogical method have been attempted. Of these, three analytical studies deserve mention. Wolk (1970) analyzed the occurrence of nonrestrictive modifiers in skilled adult writers and student writers. His findings confirmed Christensen's belief that skilled adults use more nonrestrictive modifiers and place a higher percentage in final position than do student writers. Wolk, however, cautioned that he observed significant exceptions in his data and that such tendencies should not become prescriptions. Two other studies using different approaches from Wolk show a relationship between the frequency of nonrestrictive modifiers and the notion of writing quality. Nold and Freedman (1977) found the percentage of total words in final nonrestrictive modifiers to be the single best predictor of readers' judgments of writing quality in a holistic evaluation. Hunt's indices of syntactic maturity, on the other hand, predicted none of the variance in holistic scores. King (1978) considered the same question, but used a different experimental design. She rewrote student papers so that they would contain more nonrestrictive modifiers. She then asked teachers to evaluate random groups of these papers according to overall quality. The teachers rated 94 percent of the revisions higher than the drafts of the same compositions. A close relationship was observed between the number of nonrestrictive modifiers and the qualitative rankings.

The results of the few existing pedagogical studies of generative rhetoric are inconclusive; as a group, they contain numerous flaws in their research designs. Indicative of these weaknesses is the fact that not one of the researchers mentions the work of any of the others. Palmer (1970) claims quantitative increases in both T-unit* length and the frequency of nonrestrictive modifiers for three 10th-grade students after 20 lessons in generative rhetoric. Miller (1972) and Brooks (1975) reported gains in the number of nonrestrictive modifiers

in the prose of secondary students as a result of generative rhetoric instruction. Caldwell (1978), however, observed no significant changes in the use of nonrestrictive modifiers, either among 11th-grade students taught generative rhetoric or among those taught by a traditional curriculum. These students received writing instruction during one class period per week over a 31-week period. In experiments at the college level, Bond (1972) and Hazen (1972) found quantitative gains after 11 and 15 weeks of generative rhetoric instruction, but Hardaway (1969) found no qualitative gains after six weeks of instruction. All of these studies are silent on a number of major points. Bond, for example, claims qualitative gains but does not report the criteria used in the qualitative analysis. No study measures both quantitative and qualitative effects. In an article criticizing sentence-combining experiments, Marzano (1976) speaks of the need for a major study of generative rhetoric.

3

Validity of Christensen's Assumptions About Prose Style

As a first step in questioning the validity of Christensen's assumptions we examined one of the central tenets of his theory--that the frequency and placement of nonrestrictive modifiers differentiate stylistically the prose of college students and the prose of skilled adult writers. Few unbiased researchers have supplied statistics to support or disprove this claim (cf. Wolk, 1970). Furthermore, we sought to discover whether there are large differences in the frequency and placement of nonrestrictive modifiers between different types of essays. No one had attempted to compute such statistics by discourse type. Critics of Christensen's pedagogy have claimed that nonrestrictive modifiers are particular to literary writing. They see such structures as much less important to persuasive and expository writing.

We sought a neutral source of essays for which we could analyze nonrestrictive modifiers and other syntactic features. This source had to both contain a representative sampling of nonfiction prose by 20th century writers and it had to classify essays by discourse type. After we had examined several anthologies, we chose Donald Hall and D. L. Emblen's *A Writer's Reader* (1st edition, 1976), a collection which exhibits a wide variety of contemporary styles and classifies essays by type*(a principle of organization which the authors abandoned in the second edition). The categories they use--descriptive, narrative, autobiographical, expository, and argumentative--follow the categories of Alexander Bain long familiar to composition teachers. Bain's classification of six basic kinds of discourse came to be reduced to the four traditional modes: *narration*, *description*, *exposition*, and *argument*. Recently Kinneavy (1971) and Britton and his London University colleagues (1975) have explained in detail why the four traditional modes cannot provide a conceptual framework for either the teaching of writing or research in writing. They argued, for instance, that Bain's system confounds modes of discourse with aims of discourse: An essay with the purpose of persuasion might well employ a narrative mode (cf. Kinneavy, 1971). Nonetheless, these categories have been used in discussions of Christensen's theory and remain generally in frequent usage despite their lack of sound theoretical foundation. Reanalyzing each essay for modes and purposes would have been to some

Part of Chapter 3 was published in *Freshman English News* (Faigley, 1979a). The results of the experiment described in Chapter 4 were reported in *College Composition and Communication* (Faigley, 1979b) and in *Research in the Teaching of English* (Faigley, 1979c). This monograph collates these reports and adds tables and other material not previously published. It provides a more detailed analysis of the basis of raters' judgments in the pedagogical experiment. It also provides a background of other research and a theoretical overview not included in the above articles.

**See Table 3-1 in Appendix.

extent self-defeating. For us, the advantages of using Hall and Emblen were twofold: first, we did not have to choose the essays, and second, we did not have to classify them.

Samples of student writing were gathered from 32 beginning college freshmen on the "change in behavior" topic used in the Miami University sentence-combining experiment (Morenberg *et al.*, 1978, p. 246). The authors classify this topic as an expository topic that would invite narrative and descriptive details.

PROCEDURES

We analyzed 400-word samples from the 27 essays in the Hall-Emblen anthology and from the 32 freshman essays written according to syntactic indices set out by Hunt (1965) and Christensen's indices of frequency and placement of nonrestrictive modifiers. Hunt found that a major problem earlier researchers had in studying the syntactic development of children was reliance on sentence length as a measure of writing growth. Researchers could not unambiguously determine what a sentence is, especially in the prose of younger children. Researchers were often forced to make arbitrary decisions concerning punctuation.

Hunt needed an objective unit which is dependent upon the grammatical skills of the writer, not her or his facility for punctuating consistently. For this purpose, he developed the concept of the "minimal terminable unit" or "T-unit," which eliminated the need to determine punctuation. Hunt's indices of maturity have been frequently summarized and reprinted, and we will not dwell on them here. Briefly, a T-unit is composed of a main clause and all full or reduced clauses embedded within it. In other words, a T-unit is any construction which could be correctly punctuated as a sentence (but not necessarily is a sentence) without fragments or other debris left over. Hunt measured the prose of 4th-, 8th-, and 12th-graders, as well as essays in *Harper's* and *The Atlantic*. He found a steady growth in T-unit length through the grades (see Table 3-2).

Hunt observed that toward the end of the grades the growth in T-unit length caused by embedding of subordinate clauses slows considerably. Notice the comparatively small difference in clause length between 8th and 12th graders. Something very different happens between the prose of 12th graders and skilled adults. Here the ratio of clauses to T-units is nearly the same, but the skilled adults' mean clause length is nearly three words higher. The distance in clause length between skilled adults and 12th graders is greater than between 12th graders and fourth graders. Hunt concluded from his statistics that a 12th grader who would become a skilled adult writer still had more to learn about embedding than she or he had learned through the grades (1970).

Hunt's research indicates that beyond the grades, the number of words per clause is the most important indicator of what he called "syntactic maturity." The "growth" that Hunt observed in clause length between 12th graders and skilled adults comes in large part from the addition to various reduced clauses such as participial phrases. Since Hunt's counts include only full clauses--clauses with subjects and finite verbs--the reduced clauses add noticeably to clause length. The number of words per T-unit is a somewhat less accurate indicator than clause length after high school. The number of clauses per T-unit is not a reliable indicator at this level (cf. Loban, 1976). In fact, a relatively high ratio of clauses to T-units may be a sign of "immature" writing among college students.

In both this study and in the experiment described in Chapter 4, we followed procedures for counting T-units and clauses that have been used by several previous researchers including Hunt, O'Donnell, and O'Hare. Specifically, we followed the guidelines for raters used in the Miami University sentence-combining experiment (Morenberg *et al.*, 1978). Every writing sample was analyzed two times to insure accuracy. Sentences were divided into T-units and clauses by placing single slash marks for each clause and double slash marks for each T-unit. The following passage from N. Scott Momaday's *The Way to Rainy Mountain* illustrates how the writing samples were scored:

```
5  1  1   Your imagination comes to Life,//
9  3  1   and this, you think,/ is/ where Creation
           was begun.
```

The first number in the left margin represents the number of words in the particular T-unit. The second number indicates the number of clauses. Each T-unit counts as one clause. The third number indicates the number of T-units, and is, of course, always one using this method. We counted phrasal proper nouns (such as *The United States of America*) as one word, dates and numbers as one word, hyphenated compounds as two words, and contractions as two words.

Nonrestrictive modifiers proved more difficult to count because of their dependence upon punctuation. We followed Christensen's definition of "free" modifiers as any element before the base clause with the exception of coordinating conjunctions (an initial "free" modifier), any element within the base clause set off by punctuation (a medial "free" modifier), and any element after the base clause set off by punctuation (a final "free" modifier). The concept of the T-unit is compatible to "free" modifier analysis, since each T-unit by definition has one base clause. The next example from Frederick Exley's *A Fan's Notes* illustrates how we counted nonrestrictive modifiers. Here we will use "[ ]" to indicate initial "free" modifiers, "{ }" to indicate medial free modifiers,

and "< >" to indicate final free modifiers, though in actual practice we underlined with colored pencils:

13	2	1	I was almost immediately picked up--/<as I no doubt had intended to be>//	F7
18	1	1	--and [the next day, without warning], I was ordered onto a bed to receive my	I5
22	2	1	first electroshock treatment.// Pleading with the doctor, {one of the younger staff members},/ that this was an unnecessary, {even a vindictive}, measure did no good.//	M6

The letter in the right margin indicates the position of the "free" modifier (initial, medial, or final) and the number indicates the number of words contained in it.

Christensen's definition, however, does not allow for certain problems. For one, moveable adverbial phrases and clauses are counted as nonrestrictive modifiers if they come before the base clause but not after:

(1) I grabbed a sandwich when I got home.
(2) *When I got home* I grabbed a sandwich.

In sentence (2), *when I got home* is counted as a nonrestrictive modifier according to Christensen's definition, but in sentence (1) it is not counted as a nonrestrictive modifier. Such examples, though based on arbitrary distinctions, are at least unambiguous. Other examples were more troublesome. The following, from D. H. Lawrence's "The Hopi Snake Dance," illustrates some of the difficulties we encountered in counting nonrestrictive modifiers:

> The rain that slides down from its source, and ebbs back subtly, with a strange energy generated between its coming and going, an energy which, even to our science, is of life: this, man has to conquer. The serpent-striped, feathery Rain.

This passage is especially problematic. The first sentence contains a long nonrestrictive modifier which concludes with a colon followed by another T-unit, *this, man has to conquer*. The next orthographic sentence is a fragment. Actually, it is an appositive, supplying a referent for the cataphoric *this*. Arguments can be made for counting everything after *subtly* as a long, final nonrestrictive modifier and for considering *this, man has to conquer* as a separate base clause. In such situations, we took the more conservative interpretation, ending the long nonrestrictive modifiers in the first sentence at the T-unit boundary. To do otherwise leads to other difficulties in trying to determine where the generative rhetoric of the sentence stops and the

generative rhetoric of the paragraph begins. As this example illustrates, the distinction is not always clear.

The two types of problems in the Lawrence example occur frequently. One concerns what to do about fragments which function as free modifiers. Kline and Memering's (1977) classification of fragments in edited prose includes a category for appositives. A student in the present study wrote the following: *I shot a 36 on the back nine. Even par.* The student's punctuation is typical of many professional adult writers. Skilled writers frequently punctuate nonrestrictive modifiers in a series of sentences also. We bowed to professional practices and counted such fragments as final "free" modifiers. A second problem was what to do about T-units inserted parenthetically into the middle of sentences, a problem which affects T-unit analyses as well. We counted such parenthetical asides as medial "free" modifiers.

RESULTS

Counts of the average T-unit and clause length in the college freshman essays and the Hall-Emblen samples produced mean scores (see Table 3-3) that are quite close to Hunt's norms for 12th graders and skilled adult writers. In clause length, the measure which Hunt found to be the most sensitive of mature writing, the means are nearly identical to Hunt's figures.

These figures, however, tell us little about the nature of the difference between college freshman sentences and the sentences of skilled adults. We can surmise that the added T-unit length is not the product of additional subordinate clauses in the sentences of the Hall-Emblen writers. The clause per T-unit ratios of the two groups are nearly the same, and the mean for the narrative-descriptive group in the Hall-Emblen anthology (1.55 clauses per T-unit) is even lower than the student mean. This finding is consistent with the findings of Hunt (1965, 1970) and Loban (1976), who found that mature writers often replace subordinate clauses with various types of phrases to achieve economy.

The comparison of the percentage of total words occurring in "free" modifiers also shows a marked difference between the college students and the Hall-Emblen writers (see Table 3-4). Skilled writers placed almost twice as many words in nonrestrictive modifiers as did the students in equivalent spans of text. Indeed, nearly all the difference in T-unit length between the anthologized writers and the student writers is a result of an increase in the number of words in nonrestrictive modifiers. Excluding "free" modifiers, the mean of the essay in the Hall-Emblen anthology is 12.4 words per T-unit, just above the student mean excluding "free" modifiers of 12.2 words.

Besides using fewer "free" modifiers, the students display an overwhelming tendency to put the nonrestrictive

modifiers they do use before the main clause. Almost 75 percent of the total words in nonrestrictive modifiers in the student essays occur in initial modifiers. Percentages in individual essays illustrate this tendency even more emphatically. Of the 27 samples from the Hall-Emblen anthology, only three have more words in initial "free" modifiers than in final; of the student essays, 27 of the 32 do. Ten students placed "free" modifiers only in initial position; another 10 have more than 60 percent of total words in "free" modifiers before the main clause. Just 13 students included any medial modifiers. In contrast, every sample from the Hall-Emblen anthology has "free" modifiers in medial and final positions. Only one of the samples from the anthology places the majority of words in "free" modifiers before the main clause.

Examples of dangling and misplaced modifiers in student papers indicate a compulsion to put these elements before the base clause. One such instance reads:

> Dan had the look of a lumberjack. With a red plaid shirt, broad shoulders, and a bushy moustache, you could tell he had been around.

Clearly, *with a red plaid shirt, broad shoulders, and a bushy moustache* belongs at the end of the first sentence and not at the beginning of the second. The student may have mispunctuated the two sentences, but the evidence points to a strong preference in student writing for placing "free" modifiers initially. The reason why students do this is not clear to us; Christensen (1978, p. 65) cited the misguided advice of teachers as bearing a major responsibility for this practice in student writing.

The second question we examined was to what extent the placement and frequency of nonrestrictive modifiers vary among essay types. This question is particularly important because of the criticism that nonrestrictive modifiers are typical only of the narrative and descriptive modes. We divided the Hall-Emblen essays into two groups, using the editors' classifications. In the first group, we assigned the essays which Hall and Emblen classified as Narrative, Descriptive, and Autobiographical, and in the second group we placed the essays which Hall and Emblen classified as Expository and Argumentative. Contrary to such critics as Tibbetts, the mean percentages of total words in "free" modifiers of the two groups are nearly the same (see Table 3-5). In fact, 30 percent of total words in "free" modifiers seems to be a good "ballpark" estimate for essays in published anthologies of skilled prose and magazines such as *Harper's*. Both Christensen (1978, p. 145) and Wolk (1970) computed 32 percent of total words occurring in "free" modifiers in essays from *Harper's*, *Playboy*, *Scientific American*, and *Daedalus*. The major difference between the two groups of essays seems to be a slightly higher percentage of

initial and medial modifiers in the Expository-Argumentative group at the expense of final modifiers. In both groups, nonetheless, over half of the total words are in final positions. About half of the sentences in the Hall-Emblen samples contain nonrestrictive modifiers, and about a quarter of the sentences are cumulative sentences, ones with final nonrestrictive modifiers.

A synopsis of all syntactic factors for individual essays in the narrative-descriptive group (Table 3-6), and one of syntactic factors for the expository-argumentative group (Table 3-7) support Wolk's conclusion that stylistic tendencies in the prose of skilled writers should not become prescriptions. Three of the samples from the Hall-Emblen anthology have a lower percentage of words in nonrestrictive modifiers than the student mean. We found that the tone a writer seeks to achieve determines the texture of the modification. The following paragraph from the Parrish selection in the Hall-Emblen anthology describes the arrival of American doctors in Vietnam during the recent war:

> Captain Street walked with us to the hospital compound to show us our new place of work. He was in no hurry. He had spent this entire tour of duty in Phu Bai except when in Da Nang on business. He was going home in eighty more days, and anything that would take up a few hours, or even minutes, was welcome. We were his most recent time passers.

The modification is stark in the Parrish sample, but it is appropriate for the tone of boredom that the author seeks to convey. Writers vary the texture of modification according to their purpose and their sense of narrative flow. And while 26 of the 27 samples together have more words in medial and final modifiers than in initial modifiers, the lone exception, Ephron's "A Few Words about Breasts: Shaping Up Absurd," is a brilliant piece of prose. The samples do reveal, however, the extent to which experienced writers depend upon nonrestrictive modifiers across different modes and purposes.

4

The Effectiveness of Christensen's Pedagogy for College Writers

This chapter describes an experiment which tested the effectiveness of Christensen's pedagogical application of his theory of generative rhetoric. Specifically, we tested whether generative rhetoric instruction, in comparison to a traditional method of instruction, (1) would significantly change syntactic features in student writing and (2) would significantly increase the overall writing effectiveness as judged by experienced teachers of college writing. Furthermore, we wished to investigate two other questions: whether sex is an important variable in writing experiments and whether there exists a strong relationship between syntactic features and readers' perceptions of writing quality.

We undertook this experiment for several reasons. First, it was obvious such a study was needed. The pedagogical studies of generative rhetoric described in Chapter 2 were neither well designed nor conclusive in their results.

Second, the Miami University sentence-combining study (Daiker *et al.*, 1978; Kerek *et al.*, 1979, Morenberg *et al.*, 1978) extended the potential of sentence-combining to the college level. The Miami study reported significant gains in the syntactic maturity and overall writing effectiveness of college students associated with sentence-combining practice. The study did not determine, however, what is essential for sentence-combining work, whether the effect is due to combining sentences, to controlled writing practice, to syntactic manipulation, or to some other factor. We felt that part of the answer could come in an experiment testing a syntactic approach to composition instruction that does not rely on sentence-combining. Christensen's pedagogical application of generative rhetoric and sentence-combining as practiced in the Miami University experiment have much in common. Both generative rhetoric and sentence-combining begin with the sentence and attempt to increase a student's repertoire of written syntactic structures. Both methods depend on controlled writing practice; but generative rhetoric, unlike sentence-combining, requires students to supply content in addition to manipulating syntactic structures. For example, an exercise early in the semester might ask students to observe the motion of a wind-up toy and to

describe that motion in phrasal modifiers added to a short base clause. Another difference is that generative rhetoric concentrates on a limited set of syntactic constructions, the ones that Christensen thought to be frequent in the prose of skilled writers. A third difference is that generative rhetoric applies principles of structure in sentences to paragraphs and longer units of discourse. The latter two differences stem from the fact that Christensen's pedagogy is based on a rhetorical theory, while sentence-combining lacks such a theory.

A third reason we pursued the present study was to examine the relationship between syntactic features and judgments of writing quality. Sentence-combining research has generally assumed such a relationship--namely that increase in clause length and T-unit length are directly related to improved writing quality. We wanted to find out if this relationship does indeed exist and which syntactic factors most influence raters' judgments of quality.

DESIGN AND PROCEDURES

Design. The experiment followed a pretest-posttest design, with the sample population divided into experimental and "control" groups. Actually, the experiment consisted of two treatment groups, since all students were receiving writing instruction. A third group of students who would have received no instruction would have been desirable, but was not possible because of the institution's belief that every student should be able to take freshman English during the first semester he or she is enrolled. Nearly all comparative studies of methods of teaching college writing that we know of contain this flaw in the design.

The experimental population included 138 students assigned randomly to four experimental and four control sections of the first course of a two-semester sequence of freshman composition taught at the University of North Dakota. Each class met at midday for three hours a week for 15 weeks. The eight sections contained 21 students each at the beginning of the semester, but some students missed the pretest because of registration problems during the first week and a few others dropped out, so complete sets of papers were available from only 16 to 19 students per section. Excluded from the student population were those students exempted through optional standardized testing (about 10 percent of the freshman class). Results for 94 students on the ACT Composite and English examinations, on file in the admissions office, showed no significant differences on raw mean scores between those students in the control and experimental groups (Comprehensive: Experimental, 20.8 [N = 48]/Control, 21.8 [N = 46]; English: Experimental, 19.0 [N = 48]/Control, 18.6 [N = 46]).

Teacher Variable. Our initial design required four instructors, each of whom would be assigned a control and an experimental section to limit the teacher effect (Braddock *et al.*, 1963). The first design was tested in a pilot study and found impractical because of the necessity of requiring staff members to teach an extra writing class, to assume an additional preparation, and to teach both courses with equal enthusiasm. Instead, we asked the department chair to match instructors who had expressed a willingness to participate in the experiment. Four close equivalences were obtained in terms of experience, professional qualifications, and effectiveness as measured on student evaluations. Two senior faculty members and two graduate teaching assistants with at least one year of experience in teaching writing were selected for each group.

Instructional Treatments. Experimental and control instructors agreed on a common syllabus before the beginning of the semester, with each instructor requiring eight essays, four in-class and four out-of-class, besides the two papers written for the experiment. The amount of in-class writing was roughly equivalent, although the experimental sections did devote more class time to such activity and made extensive use of overhead projectors to display examples of student writing.

The control sections were taught the content of a standard college rhetoric which has been in use for three decades. About half of the scheduled class periods were used to discuss and illustrate traditional patterns of organization, paragraph development, sentence structure, diction, and style. An anthology of essays written by skilled adults was used to supply "models" for these aspects of writing. The rhetorical analyses of these essays along with in-class writing assignments took up the balance of class time. The experimental sections followed the arrangement of Christensen and Christensen's *A New Rhetoric* (1976), writing in class many of the exercises in the text. The experimental sections also used the same anthology of essays as the control group, but its use was restricted to providing examples of sentences and paragraph structure discussed in *A New Rhetoric*.

Neither group was taught formal grammar. The experimental instructors employed *ad hoc* terminology, such as "*-ing* phrase," when referring to a particular construction. We attempted to limit other factors which have been shown to influence writing performance. Instructors were asked to keep prewriting activity to a minimum (Rohman and Wlecki, 1964; Odell, 1974) and to avoid extensive guided revision (Buxton, 1958; McColly and Remstad, 1963).

MEASUREMENT

Students were required to attend a special two-hour class during the first week of the semester in which they wrote an in-class essay as a pretest. Since the North Dakota freshman English program emphasized narrative and descriptive writing in the first semester and expository and persuasive writing in the second semester, narrative topics were given to the students, but the topics did allow students to comment on their experiences. Two matched impromptu topics, selected from a list of topics tested in the pilot study, were administered simultaneously to control the topic and mode variables. Topic A asked students to narrate an incident in which they behaved in an uncharacteristic manner. Topic B asked students to narrate an incidence of uncharacteristic behavior of someone they knew well.* We used the split halves method of administering the topics. Two sections from each group wrote on Topic A for the pretest, the other two on Topic B, and the topics were then switched for the posttest. The posttest was administered under the same conditions as the pretest and was the last writing assignment of the semester.

*The topics presented to the students are in Appendix.

Syntactic Measurement. All student essays were analyzed according to three factors of syntactic maturity described by Hunt (1965); word per T-unit, words per clause, and clauses per T-unit. The essays were also analyzed for the percentage of total words in final nonrestrictive modifiers and for the number of T-units containing final nonrestrictive modifiers. These indices are described in the previous chapter. Teams of student assistants coded, duplicated, and marked each paper independently. Afterwards, they compared their results to insure accuracy. The investigators resolved ambiguous cases.

Writing Effectiveness. A holistic method of rating was chosen for the evaluation of writing effectiveness rather than an analytic method to avoid the possibility of predetermined categories biasing the evaluation. The student essays were taken to another state, where they were read on three consecutive days by eight faculty members of two colleges who had experience teaching writing. Experimental and control pretest and posttest essays, which were undistinguishable by appearance, were randomly shuffled and were read in the same sessions. No rater had prior knowledge of the design of the experiment nor of the principles of generative rhetoric. A deliberate effort was made to represent disciplines other than English to further guard against potential bias, even at the risk of lowering the reliability of the evaluation because of the heterogeneous backgrounds of the raters (Follman and Anderson, 1967).

Each paper was separately read five times and judged on a 1-to-6 scale, with 6 as the highest score. An initial training session was held where raters received

a training packet containing general instructions for impressionistic rating, holistic scoring forms, and nine sample essays written on the test topics. The raters read one essay on each topic typical of those written for the experiment. They were urged to develop a common set of criteria for each question. The raters then read the seven remaining sample essays, compared their ratings, and discussed in particular those essays which produced disagreements. Frequent breaks were scheduled in the rating session to reduce fatigue, and additional sample essays were rated at the beginning of each session to maintain consistency of rating standards.*

*Interrater reliability of the evaluations was computed to be .78, using the method of interclass correlation described by Guilford and Fruchter (1973).

RESULTS

The means for the total number of words of essays dropped from pretest to posttest for both the experimental (Pre: 529/Post: 494) and control (Pre: 498/Post: 460) groups. Neither the pre- to posttest differences nor the differences between groups are statistically significant.

Syntactic factors. There were no significant differences for any syntactic factor between the control and experimental groups at the time of the pretest. For both groups the pretest means for clause length and for T-unit length are lower than Hunt's 12th-grade means (1965), but the means in the present study are likely influenced by the narrative topic.** Crowhurst (1977) found that the narrative mode produced mean syntactic scores considerably lower than the expository and persuasive modes among secondary students.

**Table 4-1 reports means and functions for five indices of syntactic development.

Adjusted posttest means for the same indices were obtained in the one-way analysis of covariance, using the pretest scores as covariates. The result shows that the differences between the groups are significant for all factors except clauses per T-unit, supporting Loban's and Hunt's findings that growth in this index levels out by the end of high school.

We can better understand why the differences in syntactic features between the two groups are, with one exception, all significant for the posttest essays by examining the pre- to posttest change scores for the two groups. We ran paired T-tests for each dependent variable measured in this study (see Table 4-2 for change scores and T-values). From pretest to posttest the experimental mean rose over a full word in T-unit length and clause length. Experimental students also registered over a four-fold increase in the percentage of words in final "free" modifiers and the percentage of T-units with final "free" modifiers. The only significant difference on the control side was in the number of clauses per T-unit, which decreased significantly from the time of the pretest to the time of the posttest.

Writing effectiveness. The results of the analysis of ratings of writing quality are reported in Table 4-3. The difference between the two groups in holistic ratings

of writing quality was insignificant for the pretest essays. The analysis of covariance shows a difference between the two groups beyond the .01 level of confidence for the posttest essays.

The results of paired T-tests of the pre- and posttest means for each group appear in Table 4-4. In both quantitative and qualitative aspects, the experimental group far outdistanced the control group. These findings held for individual sections as well. In paired T-tests of the change scores for individual experimental sections, all four registered significant syntactic increases and three of the four sections improved significantly in overall quality. No such gains appeared for any control section.

Sex differences. The sample population included 71 women and 65 men. We divided our data according to sex to learn if any significant differences in writing abilities existed according to sex (see Table 4-5). Two variables were significant for the pretest data. Women placed a higher percentage of total words in final "free" modifiers in the pretest essays, and they wrote essays rated significantly higher in overall quality. For the posttest essays, women still wrote essays judged significantly higher in overall quality than the essays written by men, but the difference in the percentage of total words in final "free" modifiers was no longer significant. Men began the semester with an average holistic score that was .56 below that of the women. Their average score increased .49 during the semester to nearly the average score of the women for the pretest. The women's average holistic score increased .32 from pretest to posttest, making their posttest average .39 greater than that of the men.

Relationship of syntactic features to judgments of writing quality. To examine the relationship of syntactic features to holistic ratings of writing quality, we pooled all of our data since all papers in the study were considered together.*

We then considered all syntactic factors and total length as predictors of raters' judgments of writing quality in a stepwise multiple regression analysis, a statistical procedure which estimates the variance of a dependent variable, in this case the holistic rating, in terms of independent variables entered into the equation. To give a brief example of how such an analysis works (and neglecting the complex computations involved), say a Director of Freshman English wished to develop an exemption policy for freshman English and had available scores from three standardized tests, the *SAT-Verbal*, the *Test of Standard Written English*, and the *English Composition Test*. The Director knows that all three correlate moderately with grades in freshman composition, but would like to know how to weight the scores of the three tests. A regression analysis using the course grade as the dependent variable would enter the independent variable that best predicts the grade first.

*Pearson product-moment correlations among all variables including total length of papers appear in Table 4-6.

In this hypothetical case, we will imagine that the SAT Verbal predicts 25 percent of the variance in the grades. The ECT predicts 10 percent more, and the TSWE predicts 2 additional percent. Together the three tests predict 37 percent of the variance in grades.

The results of the stepwise regression analysis for length and syntactic factors as predictors of overall quality are reported in Table 4-7. All six independent variables are significant as predictors of holistic ratings; however, in combination the six variables explain just 22 percent of the variance in holistic scores, with the percentage of T-units in final "free" modifiers accounting for 16 percent of the variance. Length accounts for nearly another 3 percent, but words per T-unit, clauses per T-unit (which is negatively associated with overall quality), and words per clause together explain less than 1 percent of the variance in holistic ratings.

5

Discussion

Student and skilled adult prose. The results of our first study, described in Chapter 3, support Christensen's assumptions about syntactic differences between student essays and essays of skilled contemporary writers. Hunt's (1965) statistics show a difference in clause length between 12th graders and skilled adults wider than the difference between 12th graders and 4th graders. We found that nearly all of this difference can be accounted for by the increased number of nonrestrictive modifiers in skilled adult prose. Excluding nonrestrictive modifiers, the T-units of the students and skilled adults we measured are nearly the same in length: an average of 12.2 words for the students and 12.4 words for the skilled adults. With nonrestrictive modifiers, however, the difference jumps from .2 of a word to 4.5 words. These findings substantiate Christensen's claim that "the difference [between student and skilled adult writing] lies in free modifiers" (1978, p. 146). We know, too, that the nonrestrictive modifiers added by the skilled adults are predominantly phrasal modifiers because the clause per T-unit ratio of the skilled adults is virtually the same as the students. For our narrative-descriptive sample, the clause per T-unit ratio of the skilled adults is less than that of the students.

Our analyses of the placement of nonrestrictive modifiers in student and skilled adult prose also support Christensen's assumptions. We found that the ratio of words between initial modifiers and final modifiers to be about 1-to-2 initial-to-final in the skilled adult sample. In other words, the skilled writers placed about twice as many words in final modifiers as they did in initial modifiers. Students did just the opposite. Their ratio of words in initial-to-final modifiers was over three times as many words in initial modifiers as in final modifiers. Thus the frequency and placement of nonrestrictive modifiers seem to be the major distinguishing syntactic features between late secondary and early college prose and the prose of skilled contemporary writers.

A second major finding of our first study was the extent to which nonrestrictive modifiers are characteristic of different types of skilled adult prose. (Again we would like to point out the theoretical weaknesses inherent in the four traditional modes--Narration,

*See Chapter 3.

**See Chapter 2.

Description, Classification, and Argument.* We use the terminology of the four traditional modes only because our interpretations and reanalyses of the work of others would add further distortions.) Contrary to the opinion of Tibbetts and others,** the expository and argumentative essays of skilled adults that we sampled contain about the same percentage of total words in nonrestrictive modifiers as the narrative and descriptive essays. The main difference between these two divisions of essays by modes was a tendency toward more medial modifiers in the expository and argumentative essays, a tendency that Christensen also observed. Thus we concluded that charges of nonrestrictive modifiers being typical only of fiction, the so-called "fiction fallacy," have no empirical grounds. The only exception is possibly the absolute construction, which is not common in some types of writing. Of course, not all skilled adult writing is of the kind published in *Harper's* and *The Atlantic* or the type that appears in anthologies used for teaching freshman composition. Faigley (1980) demonstrates that cookbook recipes contain syntactic maturity levels less than Hunt's figures for 4th graders. The type of text, its purpose, its intended audience, the subject matter, and the writer's attitude all determine the syntactic constructions in a particular text.

Generative rhetoric in the college classroom. Our first study indicated that Christensen's pedagogy is directed, as he claimed, toward teaching students those syntactic constructions that they do not normally use. But to see Christensen's pedagogy only as a method that addresses syntax neglects what makes generative rhetoric a potentially potent way of teaching composition. Christensen's pedagogy incorporates the three main concerns of classical rhetoric--invention, arrangement, and style. He felt that his method of teaching could teach students to generate ideas (hence the name *generative rhetoric*), to arrange these ideas, and to present them economically and gracefully.

Our second experiment tested the effectiveness of the pedagogy of generative rhetoric. We examined the influence of generative rhetoric instruction on the syntactic characteristics and the overall quality of essays written by college freshmen. The conclusions of the pedagogical experiment must remain tentative because the design included but one writing sample at pretest and posttest in one mode of discourse. A follow-up study would have been desirable, but would not have been productive because the students were randomly assigned to other instructors for the second semester course, some of whom reviewed the principles of generative rhetoric and some of whom did not.

Nevertheless, there is little question that generative rhetoric had a great effect on students. The pretest to posttest difference in clause length among students taught generative rhetoric was, on the average, higher than students taught sentence-combining in the

Miami University experiment. The students taught sentence-combining at Miami University, on the average, increased .89 in words per clause and .74 in words per T-unit. Students taught generative rhetoric in the present study, on the average, increased 1.12 in words per clause and 1.48 in words per T-unit, the latter figure exactly double the gain of students in the Miami study. By the end of the semester, the percentage of total words in final nonrestrictive modifiers for students taught generative rhetoric rose from 3.8 percent to 19.3 percent. And because the clause per T-unit ratio dropped during the semester, we can assume that most of the nonrestrictive modifiers at posttest were phrasal modifiers.

These findings suggest that controlled syntactic practice is primarily responsible for the syntactic increases attributed to sentence-combining at the college level, and that instruction in nonrestrictive modifiers is more important for college students than the activity of combining sentences. These findings give tentative evidence that controlled writing practice of various types, including sentence-combining, generative rhetoric, and imitation, can produce significant syntactic increases among college writers *if nonrestrictive modifiers are emphasized*. As we expected, nearly all of the gains in clause and T-unit length among students taught generative rhetoric are directly attributable to the increased number of nonrestrictive modifiers. Mellon (1979) believes it likely that nonrestrictive modifiers produced the syntactic increases in the Miami University sentence-combining study. The findings of both studies reported here support Mellon's viewpoint.

Of more importance than the syntactic increases are the increases in writing quality for the students taught generative rhetoric recorded in the holistic evaluation. The average increase in overall quality of the experimental students again was of the magnitude of the students taught sentence-combining in the Miami University study. In the holistic ratings of overall writing effectiveness, students taught sentence-combining at Miami University increased .53 on a 6-point scale from pretest to posttest. Students taught generative rhetoric in the present study gained .63 on a 6-point scale of writing quality from pretest to posttest. In view of the failure of earlier studies of college writing to detect improvement in writing quality after a semester of instruction (cf. Kitzhaber, 1963), the increases in quality in the Miami study and the present study become even more noteworthy.

The stepwise regression analysis shows, paradoxically, that the gains in writing quality are minimally associated with the standard indices of syntactic development--clause length and T-unit length. The single syntactic variable strongly linked to overall quality is the percentage of T-units with final nonrestrictive modifiers. Still, over 80 percent of the variance in holistic ratings is not explained by the five

syntactic variables. In fact, no researchers in college writing have been able to show a significant relationship between syntactic indices and writing quality. When the Hunt indices were analyzed as predictors of overall quality in the Miami University study, they accounted for just 3 percent of the variance in holistic scores (Morenberg, 1979). Witte and Faigley (1980) found all syntactic variables, including final nonrestrictive modifiers, to be minimally valuable as predictors of writing quality.

Total length, a known predictor of raters' judgments of writing effectiveness (cf. Nold and Freedman, 1977), accounts for little of the remaining variance. Freedman (1977) conducted an experiment to determine which factors were significant influences upon raters by rewriting the essays of college freshmen found to be strong or weak in content, organization, sentence structure, and mechanics. Freedman found the influence of sentence-structure and mechanics considerably less significant than the influences of content and organization on holistic judgment, although the category described as sentence-structure included misused words, agreement errors, and the use of some punctuation marks.

A COMPARISON OF HIGH- AND LOW-RATED ESSAYS

To learn more about what might account for the remaining 78 percent of the variance in holistic scores not explained by the length and syntactic variables, we made an in-depth analysis of quantifiable features for three papers that received the highest ratings in the holistic evaluation and for three papers that received the lowest ratings. Two of the three high-rated papers were experimental posttests. The other high-rated paper was a control posttest. We further hoped to gain more insight into what accounted for the rise in overall quality on the experimental side. The sample we analyzed is quite small, but it does supply a number of clues as to why the students taught generative rhetoric improved dramatically.

Table 5-1 shows the means for the length and syntactic indices for the high- and low-rated essays (see page 35). The syntactic means are similar to the means for the essays of the experimental group at posttest. Notice that the most striking differences occur in the percentages of words in final "free" modifiers and T-units with final "free" modifiers. The magnitude of difference is in harmony with the results of the stepwise regression analysis of predictors of holistic ratings.

We then analyzed these six essays according to other indices, concentrating particularly on indices which might reveal differences in content. We began by counting errors. We considered three types of errors: those in spelling, grammar, and punctuation. As we anticipated,

TABLE 5-1

Means for Length and Syntactic Indices for High- and Low-Rated Essays

Factor	High	Low
Length	659.0	540.0
Words/T-unit	15.4	13.1
Clauses/T-unit	1.77	1.73
Words/Clause	8.5	7.6
% of Words in Final FM	15.2	1.1
% of T-units w/ Final FM	16.9	2.3

errors were much more frequent in the low-rated essays. We counted 8.9 errors per 100 words in the low-rated essays and 1.9 errors per 100 words in the high-rated essays.

We looked at what types of words appeared in the high- and low-rated essays. We broke down the essays according to categories that other researchers have thought to be indicative of quality, and then computed the percentage of total words in each category. The three categories we computed were the percentage of total words in adjectives (cf. Hunt, 1970), the percentage of total words in prepositional phrases (cf. Witte and Sodowsky, 1978), and the percentage of total words in uncommon verbs (cf. Nold and Freedman, 1977). The results of these analyses appear in Table 5-2:

TABLE 5-2

Adjectives, Prepositional Phrases, and Uncommon Verbs in High- and Low-Rated Essays

Factor	High	Low
% of Words in Adjectives	7.9	7.4
% of Words in P. Phrases	21.0	21.0
% of Words in Uncommon Verbs	5.2	3.4

In these three sets of figures, only the percentage of total words in uncommon verbs (as defined by Nold and Freedman) seem to distinguish the high- and low-rated essays.

Another set of indices proved far more indicative of qualitative differences. These indices were suggested by Odell (1977). Odell proposed examining the types of words in subject slots and the number and types of words supplying physical details as indicators of writing

development. We will first consider the words which appear as grammatical subjects in the high- and low-rated essays. Table 5-3 gives the percentage of subject slots occupied by first-person pronouns, by third-person pronouns, and by nouns:

TABLE 5-3

Percentage of Subject Slots Occupied by 1st-Person Pronouns, by 3rd-Person Pronouns, and by Nouns: High- and Low-Rated Essays

Factor	High	Low
1st-Person Pronouns	31.0	43.3
3rd-Person Pronouns	33.0	20.7
Nouns	33.3	23.7

Low-rated essays tended to use more first-person pronouns, a pattern that Lunsford (1979, 1979) has found indicative of cognitive egocentrism. Immature writers often are limited to a single perspective, while more mature writers often can view a subject from a number of perspectives. High-rated essays used a higher frequency of third-person pronouns, probably indicating their writers' ability to extend ideas at greater length than the writers of the low-rated essays. Low-rated essays included a higher percentage of nouns. But more of the nouns in the low-rated essays were abstract nouns. In the low-rated essays, 33 percent of the nouns in subject slots were abstract in comparison to 14.6 percent for the high-rated essays.

Even more revealing were the physical detail slots. The average number of physical detail slots and what they contained--adjectives, adverbs, nouns, participial phrases, and prepositional phrases--are listed in Table 5-4 (see page 37). These statistics point to a major difference in the content of the high- and low-rated essays. The high-rated essays were much more definite and contained many more physical details than the low-rated essays. The number of prepositional phrases and adjectives in the two essays were about the same, but many more adjectives and prepositional phrases in the high-rated essays conveyed physical details than in the low-rated essays.

A passage from one of the low-rated essays illustrates the characteristic lack of physical details. The passage narrates a trip the writer took to Boston:

> I had never been on the Subways before and in a large city they are quite dark dirty [sic] and also dangerous at times. I have traveled a little in this country but mainly out West + South so I wasn't use too [sic] the East Coast with it's [sic] large masses of population and buildings everywhere. So I caught the Subway and tried to act like someone who was from around there you know, a true Bostonian. I thought that I wouldn't stick out as easy for those so called muggers theives ect. [sic] But here I was smoking a cigarette (which I haven't smoked in a long time) kind of nervous and a guy says How you like Boston [sic] he knew right off that I wasn't from there. But before I went on the subway I was having a good time at the airport with all the other people who came in on planes but now I was alone.

Besides the problems the writer has sustaining the narrative line and his problems with written conventions, the paper misses nearly every opportunity to include physical detail. The writer tells us that subways are dark and dirty in "a large city," but doesn't tell us about the particular subway he rode. He tells us the East Coast has "large masses of population and buildir everywhere," but he doesn't give us his perspective of Boston. The only concrete detail we as readers can imagine is the person who asks the writer how he likes Boston. But instead of developing this incident, the writer quickly returns to his egocentric perspective, ignoring the reader's need to imagine what the writer has experienced.

TABLE 5-4

Number of Physical Detail Slots and Their Constituents: High- and Low-Rated Essays

Factor	High	Low
# of P.D. Slots	32.3	16.0
Adjectives in P.D. Slots	15.7	2.7
Adverbs in P.D. Slots	8.0	2.3
Nouns in P.D. Slots	39.7	15.7
Words in Participial Phrases in P.D. Slots	8.7	0
Words in Prepositional Phrases in P.D. Slots	21.3	2.0

The next passage is from one of the high-rated papers:

> We sat at a bar casually sipping a beer, trying to decide where to go next. The bar was quiet, not receiving much business on Sundays. I looked around. There was an ancient juke box in the corner, blaring some country ballad about a love gone sour, its lights flashing blue, yellow, red, and green. The pinball machine beside it, bearing an "out of order" sign, was just as old. There were a few booths in back, with red vinyl seats, torn from years of wear and tear, stuffing falling out at the seams. Directly behind the bar mirrors hung from the cracked plaster wall--long mirrors--coated with a smokey film, barely giving any reflection. Various signs were taped to them, offering the typical selection of microwaved bar foods--everything ranging from hot pizzas and sandwiches to beef jerky and beer nuts.
>
> The bartender, a fat, jovial man, puttered around behind the counter, trying to create order from chaos, rearranging items, wiping the counter, and making sure each customer was served. Occasionally he would stand in front of the portable fan, wipe his round, bald head with a red handkerchief, and clean his black spectacles on his soiled white apron.

The number of physical details that this student provides about the bar stands in contrast to the lack of detail in the low-rated essay. One could, perhaps, criticize the writer of the high-rated paper for making nearly every sentence a cumulative sentence, but in the context of the essay as a whole, the quoted passage works well as an introduction for the dialogue that follows between the writer and an old drunk who sits down beside her. The weaknesses in the essay occur when she generalizes, such as in the sentence about the bartender "trying to create order from chaos." Its strength is in the details, which help to establish the mood for the incident that follows. The smokey mirrors, the out-of-order pinball machine, the torn, red-vinyl seats all convey the setting much better than generalizations like "a run-down bar" or "an old beer-joint." Such richness of detail is infrequent in the essays of college freshmen.

DIRECTIONS FOR TEACHING AND RESEARCH

From the two present studies and other studies that have examined differences between college students' and skilled adults' prose and that have tested the effect of syntactic approaches to the teaching of composition, we can make the following observations. First, there are marked and predictable *group* syntactic differences between

students' and skilled adults' prose. Second, syntactic approaches to composition have been able to influence college students to write prose which in syntax more closely resembles the prose of skilled adults and to write prose judged better in overall quality than the prose of students taught by conventional methods. Third, increases in syntactic indices among students taught by syntactic approaches are not causally linked to increases in overall quality.

The last observation rules out a simple explanation of what happened to increase the writing effectiveness of students taught generative rhetoric in the present study. Improved syntactic abilities do account for *part* of the effect. The following example from a pre-test typifies the lack of control many students have over syntax:

> I would walk around and whenever I would run into a friend of mine or a fellow teammate I would always have a smile and something to say about the game that night. When warming up before the beginning of the game, I would be clapping people on the back and telling them to fire up, and get ready, and so on. This incident was when my role became the biggest because I had to show to my teammates that I was fired up and ready to go when I actually would have the butterflies so bad that I would have to take stomach relievers before the game would actually start.

While this paragraph is grammatically and technically correct, the complexity of the clause structure makes it difficult to read and uninteresting. The last sentence in particular rambles on with a nominal followed by five successive clauses, disrupting the advance of the narrative.

Another common problem in college freshman writing comes in awkward attempts at nominalizations, presumably motivated by the belief by students that a heavily nominal style is indicative of learning and mature writing. The following example illustrates the unintentionally humorous results such efforts sometimes bring:

> The consciousness which has evolved in man is the building block upon which our civilized world is founded. Because man is constantly struggling for a better understanding of his environment, he must continuously rely on logic and rationalization.

The emphasis on short base clauses and verbal constructions in generative rhetoric present an alternative to the nominal style that students read in their textbooks. Students taught generative rhetoric learned to be conscious of syntax and how to manipulate sentences to gain desired ends. They learned that by reducing some clauses

to phrases, they could imply an order of importance to a series of actions. Moreover, they could say the same thing in fewer words.

One indication that students taught generative rhetoric grew more confident was the appearance in posttest papers of sentence types not formally taught during the semester. One example occurred in the opening paragraph of a posttest paper:

> People are always changing, or so I've been told. But me? Never could it happen I told myself; I would always be the same. I was the type that the next-door-neighbor could always count on to babysit her three whining children on Friday nights, calling only an hour or two in advance (well, Kathy won't be doing anything anyway); the type the high school jock could always count on to do all the studying so he could ace his test; the type who always called grandmother every Sunday and the one who had terrible pangs of guilt when she couldn't spend an hour and a half listening to the monotone rattlings of a senile woman. Yes, that was me.

Sentences like the one beginning "I was the type" were extremely rare in the pretest sample. The point is not that the style of this particular sentence is laudable (the paper was not among the leaders in the holistic rating), but that the writer was willing to take chances with a complicated parallel series. Another indication of the increased confidence of experimental students is in the punctuation. Punctuation skills are not simply a matter of avoiding errors. Notice that the writer of the barroom description in the last section was able to use punctuation for rhetorical effects. For example, she set off "long mirrors" with dashes instead of commas to gain more emphasis. This student understands punctuation in broader terms than simple conformity to handbook prescriptions.

Not all students, of course, showed such dramatic improvement from generative rhetoric instruction. A few seemed totally unaffected, a few others seemed to grasp only the syntactic operations and not the reasons for their use. Two students placed over 70 percent of the total words of their posttest papers in final nonrestrictive modifiers; a sample from one of them appears below:

> We grew up together, huddling together to combat the anxieties of adolescence, wanting the best for everyone, becoming used to the world which destroyed some of our young imaginative concepts of always coping with things together. Of course, we must become individuals, but not out on a limb alone, thus being the relationship between she and I. She was always someone to care about, so pretty and alive, knowing each other since the age of

ten, fading so far apart the last few years, a misunderstanding that can only be resolved with compromise.

Hidden in this tangle of phrases, there seems to be an account of the vicissitudes of young love, told in the idiom of bubblegum-rock lyrics. The writer is the author, as well, of the pretest essay from which the "subway" example was taken. Though his syntax changed during the semester, he remained as abstract and egocentric as he was in the beginning. His was only one of two papers like this among the 70 experimental posttest essays, however.

This last example alone makes a strong case against teaching syntactic operations in an a-rhetoric context at the college level, without regard to how such constructions are used in actual discourse. Above all, the example indicates the possible dangers of making Christensen's descriptions of the syntactic habits of skilled writers prescriptive rather than descriptive. Indeed, raters of writing quality were minimally influenced by the syntactic constructions themselves. Apparently they were influenced (and here we speculate on the basis of our *post hoc* analysis of high- and low-rated essays) by the enhanced abilities of experimental students to support generalizations with details and to arrange these details in a way that facilitated their comprehension. The principal strengths of generative rhetoric as a basis for teaching composition, therefore, are not syntactic but semantic. Christensen determined levels in cumulative sentences according to semantic criteria. He worked from the whole stated in the base clause to the part elaborated in nonrestrictive modifiers. In terms of traditional rhetorical theory, the invention component of Christensen's pedagogy is more important than the stylistic component.

The emphasis on direct observation and concrete supporting detail is not unique to generative rhetoric; what is original about it comes in the teaching of forms that will provide slots for details. We hear an example of a sentence pattern in the language of television newscasters. The sentence pattern takes two forms, which Williams (1979) has called *summative* and *resumptive* modifiers. Respective examples appear below:

> Today the President imposed a grain embargo on the Soviet Union, a *move* that will affect thousands of American wheat farmers.
>
> Today the President announced his decision to impose a grain embargo on the Soviet Union, a *decision* that will affect thousands of American wheat farmers.

We can see from the two examples that *summative* and *resumptive* modifiers are quite similar in form. Both

are final nonrestrictive modifiers, and both are appositives with the same surface form--a noun phrase followed by a relative clause. The *summative* modifier begins with a noun or noun phrase which sums up the preceding base clause and adds a relative clause. The *resumptive* modifier repeats a noun or noun phrase from the base clause and adds a relative clause.

On television news, summative and resumptive modifiers are nearly always used to comment on what is being reported. A tripartite information structure is in operation. The first part is something known to the audience. In the above sentences, that information is "The President." Second, new information is introduced in the verb phrase of the sentence. Here it is the imposition of the grain embargo. The third part is the commentary in the summative or resumptive modifier.

There are probably several good reasons why these two related sentence patterns are favorites of broadcast journalists. First, the sentence follows a key convention of information structure where known information is presented first and new information is then attached to it. Second, the pause in the middle of the sentence enables the reader or listener to take what Williams calls "a mental breath." Third, the pattern is economical, a factor that is of course important on one-minute news spots. Fourth, the pattern provides an alternative to a *which*-clause that has no definite referent.

Theoretical approaches to information structure in sentences began among the Prague School of Linguists, specifically among Mathesius and some of his more important followers such as Daneš, Firbas, and Sgall.* Their motivation was to explain the distribution of certain sentence types in Czech and Russian that appeared to be conditioned by thematic structure. The closest analog in English to the sort of grammatical constructions that members of the Prague School sought to explain is the passive. Consider the following example:

(1) The police apprehended the suspect as he left the bank.

(2a) He is being held in the county jail.

(2b) The police are holding the suspect in the county jail.

Passive sentences such as (2a) are sometimes preferable to their active counterparts in cases where the topic of the discourse segment is the object. The active sentence (2b) places thematic focus on the police rather than the suspect who is presumably the thematic focus of this short text. Daneš (1964) theorized three levels of language simultaneously operating in every sentence: (1) a semantic level, (2) a grammatical level, and (3) an utterance level. Included in the utterance level are thematic structure (the *theme rheme* or *topic-comment*

distinction) and information structure (the relationship of *known* and *unknown* or *given-new* information).

Theories of information structure have been investigated empirically. Haviland and Clark (1974; Clark and Haviland, 1977) call this particular strategy of presenting information the *given-new contract*. They maintain that the listener or reader expects the writer or speaker to present information in a way that the listener or reader is able to recover the antecedents for the given information and in a way that the new information is not redundant. They see a three-step strategy in the comprehension of given-new information. First, the reader identifies the given and new information. Second, the reader searches his or her memory for the antecedent of the given information. Third, the reader adds the new information to the antecedent and discards the given information.

The most easily comprehended order is one where the new information follows the old and the antecedents are recoverable without long memory searches. Sentences with long initial modifiers place a burden on short-term memory because the information contained in them must be stored until the reader finds the "old" information that it modifies. Right-branching sentences, including sentences with final free modifiers, place less strain on short-term memory because the "old" information is presented first, a pattern typical of most English declarative sentences. Thus what is novel about Christensen's approach is neither purely syntactic nor semantic but something more, concerned with how information can be presented to facilitate comprehension. Christensen, of course, did not present his insights in such terms, but he was able to observe how skilled writers were able to convey information efficiently. His pedagogy was guided by these observations.

The validity of Christensen's ideas about discourse structure, however, does not explain the success of his pedagogy. The probable causes of the improvement of students taught generative rhetoric are twofold. The first cause is what we classify as semantic. Students were able to extend the semantic domain of the ideas they presented by *addition*, one of Christensen's four key principles. They were able to add details that better conveyed to readers the people, places, and incidents they wrote about. In-class generative rhetoric exercises stress direct observation, but students who wrote on the pretest and posttest topics had to rely upon memory to supply appropriate details. The second cause involves what we have described above as information structure. Students were taught to place information at the highest level of abstraction--information that is generally known to the reader--first. They were taught to do this in both sentences and paragraphs, and then to elaborate with new information afterward. Practice in these structures apparently served as an invention heuristic, giving students cues to where additional

information was needed to make people, places, and events known well to themselves, knowable to strangers.

Perhaps Christensen's most important contribution to a pedagogy of writing was his insistence upon an *ad hoc* or working grammar. He realized that it makes little difference what the student calls the verb-headed modifier--"verbid," "verbal," or "-ing-thing"--so long as he can manipulate it and fill it with a content. Both students and instructors, freed from the constraints of learning and teaching grammar as a sort of mystic aid to composing, go about the business of the writing course--practicing the steps of the process, with only as much nomenclature as is needed to discuss those steps.

Another effect of instruction in generative rhetoric is hard to document. Christensen apparently believed that the chief contribution of his rhetoric was to the office of style. He wrote of invention and arrangement, to be sure, but more often by far he thought of style, which it seems he equated with syntactic fluency--the filling of the writer's model chamber with a large variety of modifiers to be used in appropriate places. Observant teachers have noticed that students come to college composition courses writing deaf. And because their ears are not engaged, they have no sense of the sound--mainly the rhythms--of what they write. Those who do manage to work some oral English into their compositions borrow it from their own spoken dialects, which are, for most purposes, not appropriate on the page; the ear of the writer must be proficient in both spoken English and spoken *written* English. One might speculate that parents and others have not read to these young people during their formative years. Generative rhetoric helps to supply this sensitivity to the rhythms of the written language. Classes analyze cumulative sentences by identifying free modifiers, most of them final, and by noting their levels of generality--using the overhead projector to show them to the class, reading them aloud.

Again, experience, not data, tells us that after a semester of such activities students have developed their ability to hear writing. To be sure, they are not poets, not even practiced amateurs; but they do have a rudimentary sense of the sound of what they write and of what they read.

In ending, we are left with a picture of generative rhetoric, both as an analytical model and a pedagogical theory, something like an iceberg; we sense intuitively that it has a great deal to offer but we cannot fully explain it. The experiments described in this monograph suggest that, in time, we will better understand why the essays of students taught generative rhetoric improved in quality and better explain to students semantic relationships in written discourse that in the past we have left to intuition.

Appendix

ESSAY TOPICS USED IN GENERATIVE RHETORIC EXPERIMENT

TOPIC A

Every day we are faced with a variety of different situations in which we have to interact with other people. In order to cope with these different situations, we play roles. We don't really lie or "act a part"--but we do adapt our behavior to the situations we encounter. Think about your own behavior at home and when you're out with your friends. Or in the classroom right before the bell and then in the hallway after class.

Your task in this paper is to describe your behavior during an incident when you were conscious of playing a role. In order to make the description meaningful, however, you must first begin by describing your ordinary behavior. You might do this by describing how you acted immediately before or after the incident you've chosen. Your point--and your paper should have a point--is to establish the contrast between the two descriptions and to comment on what you learned about yourself (or other people) by living through this experience. You may want to think about why you behaved differently, what would have happened if you had not behaved differently, and how the other people involved reacted to you.

TOPIC B

In all our lives there are certain people whom we think we know well. Often they are the people close to us--parents, brothers and sisters, other relatives, best friends, neighbors, and teachers. These are people whom we expect to behave in a certain way, and we often can predict their behavior in a given situation. But people sometimes surprise us. Occasionally they do something or say something which is uncharacteristic, which doesn't fit our preconceived notions of how they should behave.

Your task is to describe an incident in which someone you know well behaved in an uncharacteristic manner. In order to make the description meaningful, however, you must first begin by describing that person's ordinary, characteristic behavior. Your point--and your paper should have a point--is to establish the contrast between the two descriptions and to comment on what you learned about that person or yourself by observing that special incident. You may want to think about why people behave differently sometimes and what motivates these changes.

Table 3-1 lists the selections in the Hall-Emblen anthology under the editors' classifications, with the exception of four essays in an introductory section which we distributed.

TABLE 3-1

Selections in *A Writer's Reader*
Classified by Editors

DESCRIPTIVE	
Annie Dillard	*Pilgrim at Tinker Creek*
Virginia Woolf	"The Death of a Moth"
Peter Bogdanovich	*Pieces of Time: Peter Bogdanovich on the Movies*
Wendell Berry	*The Long-Legged House*
E. B. White	"The Ring of Time--Fiddler Bayou--March 22, 1956"
NARRATIVE	
John Parrish	*12, 20, and 5: A Doctor's Year in Vietnam*
Maya Angelou	*I Know Why the Caged Bird Sings*
Norman Mailer	*Of a Fire on the Moon*
Nora Ephron	*Crazy Salad: Some Things About Women*
Walter White	*A Man Called White*
AUTOBIOGRAPHICAL	
Frank Conroy	*Stop-Time*
Richard Wright	*Black Boy*
Frederick Exley	*A Fan's Notes*
Lillian Hellman	*An Unfinished Woman*
N. Scott Momaday	*The Way to Rainy Mountain*
EXPOSITORY	
John Bleibtreu	*The Parable of the Beast*
James Breslin	*How the Good Guys Finally Won*
Elizabeth Thomas	*The Harmless People*
Pete Axthelm	*The City Game*
D. H. Lawrence	"The Hopi Snake Dance"
Ralph Ellison	"Harlem is Nowhere"
James V. Warren	"The Physiology of the Giraffe"
ARGUMENTATIVE	
Edgar Friedenberg	*The Disposal of Liberty and Other Industrial Wastes*
Robert Pirsig	*Zen and the Art of Motorcycle Maintenance*
Margaret Mead	"Needed: Full Partnership for Women"
Pierre Berton	"Down with State Schooling; Keep Politics Out of Education"
Barbara Tuchman	"History as Mirror"

TABLE 3-2

Summary of T-Unit and Clause Length Factors for 4th, 8th, and 12th Graders and Skilled Adult Writers (Hunt, 1965, p. 56)

	Words per T-unit	Clauses per T-unit	Words per Clause
4th Graders	8.6	1.30	6.6
8th Graders	11.5	1.42	8.1
12th Graders	14.4	1.68	8.6
Skilled Adults	20.3	1.78	11.5

TABLE 3-3

Mean Clause and T-Unit Length for College Freshmen and Hall-Emblen Writers

	Words per Clause	Clauses per T-unit	Words per T-unit
Freshmen	8.9	1.62	14.5
H-E Writers	11.3	1.67	19.0

TABLE 3-4

Percentage of Total Words in "Free" Modifiers and Their Placement: College Freshmen and Hall-Emblen Writers

	Mean % of Total Words in "Free" Modifiers	% in Initial Position	% in Medial Position	% in Final Position
Freshmen	16.1	11.8	0.8	3.5
H-E Writers	30.3	8.8	4.2	17.3

TABLE 3-5

Percentage of Total Words in "Free" Modifiers and Their Placement: Two Groups of Essays from the Hall-Emblen Anthology

	Mean % of Total Words in "Free" Modifiers	% in Initial Position	% in Medial Position	% in Final Position
Narrative-Descriptive	30.4	9.4	3.1	18.9
Expository-Argumentative	30.2	9.4	5.6	15.2

TABLE 3-6

Synopsis of Syntactic Features in Narrative, Descriptive, and Autobiographical Essays in the Hall-Emblen Anthology

	Words per Clause	Clauses per T-unit	Words per T-unit	% of words in f.m.	% in init.	% in med.	% in final
Descriptive							
Dillard	13.6	1.4	18.5	32.2	9.6	5.4	17.2
Woolf	15.3	1.6	25.1	42.6	4.0	6.8	31.9
Bogdanovich	8.5	1.7	14.5	39.7	7.1	1.7	30.8
Berry	10.7	1.3	13.6	35.4	10.3	5.9	19.2
E. B. White	10.9	1.8	19.8	36.6	6.0	1.4	29.2
Narrative							
Parrish	10.0	1.4	14.0	8.6	1.7	1.2	5.7
Angelou	11.1	1.7	18.3	25.7	6.7	6.7	12.4
Mailer	12.8	1.4	18.3	43.1	17.5	1.2	24.4
Ephron	8.8	1.8	15.9	27.1	20.8	.7	5.6
W. White	11.4	1.8	20.5	15.4	2.7	3.9	8.8
Auto-biographical							
Conroy	16.0	1.3	20.8	41.1	12.0	1.9	27.2
Wright	8.7	1.5	13.3	9.8	4.5	2.3	3.0
Exley	9.7	1.8	17.4	40.5	10.6	3.2	26.7
Hellman	8.6	1.8	15.5	30.7	0	2.2	28.5
Momaday	10.3	1.1	11.9	27.2	11.9	2.0	13.4
Narrative-Descriptive Group Mean	11.1	1.56	17.2	30.4	8.4	3.1	18.9

TABLE 3-7

Synopsis of Syntactic Features in Expository and Argumentative Essays in the Hall-Emblen Anthology

	Words per Clause	Clauses per T-unit	Words per T-unit	% of words in f.m.	% in init.	% in med.	% in final
Expository							
Bleibtreu	10.6	1.6	17.3	27.9	12.5	1.6	13.9
Breslin	10.6	1.6	17.2	23.5	9.0	4.8	9.7
Thomas	12.9	1.8	23.8	44.2	8.2	1.5	34.4
Axthelm	13.8	1.2	16.7	39.8	9.5	3.5	26.8
Lawrence	9.5	1.3	12.7	27.7	7.1	1.0	19.6
Ellison	11.7	1.6	19.1	31.2	9.3	9.0	12.9
Warren	13.3	1.6	21.7	27.1	11.4	5.1	10.7
Argumentative							
Friedenberg	10.4	2.9	30.4	29.8	6.8	4.2	19.3
Pirsig	7.4	1.7	12.8	12.7	2.2	5.9	4.6
Mead	13.9	2.4	33.1	37.2	15.1	18.6	3.0
Berton	10.8	2.1	22.7	23.0	3.7	9.3	10.0
Tuchman	14.5	1.9	27.1	38.1	17.7	2.9	17.4
Expository-Argumentative Group Mean	11.6	1.81	21.2	30.2	9.4	5.6	15.2
Mean for Both Groups	11.3	1.67	19.0	30.3	8.8	4.2	17.3

TABLE 4-1

Pretest and Posttest Means and F-Ratios for Five Syntactic Factors: Experimental and Control Groups

PRETEST (1,136 df)	Experimental (N = 70)		Control (N = 68)		Difference	
Factor	Mean	SD	Mean	SD		F
Words/T-Unit	14.22	2.98	13.99	2.66	.23	.23(NS)
Clauses/ T-unit	1.84	.38	1.76	.27	.08	1.74(NS)
Words/Clause	7.75	.82	7.96	.96	-.21	-1.85(NS)
% of Words in Final FM	3.81	3.98	3.69	3.60	.12	.03(NS)
% of T-units w/ Final FM	5.40	4.77	5.91	5.39	-.51	-.34(NS)

POSTTEST (1,136 df)	Experimental (N = 70)		Control (N = 68)		Difference	
Factor	Mean	SD	Mean	SD		F
Words/T-Unit	15.70	3.87	13.48	2.61	2.22	15.44***
Clauses/ T-Unit	1.78	.34	1.69	.29	.09	2.65(NS)
Words/Clause	8.87	1.80	8.03	1.09	.84	10.98**
% of Words in Final FM	19.29	13.77	4.53	5.39	14.76	68.06***
% of T-Units w/ Final FM	25.88	19.08	7.17	7.12	18.71	57.55***

ADJUSTED POSTTEST (1,135 df)	Experimental (N = 70)		Control (N = 68)		Difference	
Factor	Mean	SD	Mean	SD		F
Words/T-Unit	15.65		13.52		2.13	15.76***
Clauses/ T-Unit	1.77		1.71		.08	1.31(NS)
Words/Clause	8.90		8.01		.89	12.35***
% of Words in Final FM	19.29		4.53		14.76	67.61***
% of T-Units w/ Final FM	25.92		7.12		18.80	57.85***

NS--not significant
**--significant at or beyond the .01 level
***--significant at or beyond the .001 level

TABLE 4-2

Pre- to Posttest Change Scores and T-Values for Five Syntactic Factors: Experimental and Control Groups

EXPERIMENTAL
(1,69 df)

Factor	Change	T-Value
Words/T-unit	1.48	2.87**
Clauses/T-unit	-0.06	-1.22(NS)
Words/Clause	1.12	5.00***
% of Words in Final FM	15.48	9.00***
% of T-units w/ Final FM	20.48	9.09***

CONTROL
(1,67 df)

Factor	Change	T-Value
Words/T-unit	-0.51	-1.57(NS)
Clauses/T-unit	-0.07	-2.05*
Words/Clause	0.07	0.47(NS)
% of Words in Final FM	0.84	1.06(NS)
% of T-units w/ Final FM	1.26	0.74(NS)

NS--not significant
*--significant at or beyond the 0.5 level
**--significant at or beyond the .01 level
***--significant at or beyond the .001 level

TABLE 4-3

Pre- and Posttest Means and F-Ratios for Evaluations of Writing Quality: Experimental and Control Groups

PRETEST (1,136 df)	Experimental (N = 70)		Control (N = 68)		Differ-	
Factor	Mean	SD	Mean	SD	ence	F
Holistic Rating (1-6)	3.06	.97	3.13	.86	-.07	-0.23(NS)

(continued)

TABLE 4-3 (continued)

POSTTEST (1,136 df) Factor	Experimental (N = 70) Mean	SD	Control (N = 68) Mean	SD	Difference	F
Holistic Rating (1-6)	3.69	.89	3.31	.88	.38	6.24*

ADJUSTED POSTTEST (1,135 df) Factor	Experimental (N = 70) Mean	SD	Control (N = 68) Mean	SD	Difference	F
Holistic Rating (1-6)	3.70		3.29		.41	9.65**

NS--not significant
*--significant at or beyond the .05 level
**--significant at or beyond the .01 level

TABLE 4-4

Pre- to Posttest Change Scores and T-Values for Holistic Ratings of Writing Quality: Experimental and Control Groups

EXPERIMENTAL
(1,69 df)

Factor	Change	T-Value
Holistic Rating (1-6)	0.63	6.55***

CONTROL
(1,67 df)

Factor	Change	T-Value
Holistic Rating (1-6)	0.18	1.43(NS)

NS--not significant
***--significant beyond the .001 level

TABLE 4-5

Significant Varibles According to Sex:
Pretest and Posttest

PRETEST
(1,137 df)

Factor	Men (N = 65) Mean	Women (N = 71) Mean	F
% of Words in Final FM	3.03	4.63	6.40*
Holistic Rating	2.81	3.37	13.91***

POSTTEST
(1,137 df)

Factor	Men (N = 65) Mean	Women (N = 71) Mean	F
Holistic Rating	3.30	3.69	6.55*

*--significant at or beyond the .05 level
**--significant at or beyond the .001 level

TABLE 4-6

Pearson's Product Moment Correlations for Combined
Syntactic Data and Holistic Ratings

N = 138 ($p < .05$ when $r \pm .167$)

	Holistic Rating	Words/ T-unit	Clauses/ T-unit	Words/ Clause	% Words in FFM	% T-units w/ FFM
Words/ T-unit	.04					
Clauses/ T-unit	-.07	.78				
Words/ Clause	.18	.48	-.12			
% Words in FFM	.25	.32	.05	.44		
% T-unit w/ FFM	.41	.08	-.08	.28	.80	
Length	.30	.17	.19	-.01	.10	.35

TABLE 4-7

Stepwise Multiple Regression Analysis for Six Length and Syntactic Variables as Predictors of Holistic Ratings, N = 138

Step Number	Variable	R^2	R^2 Change
1	% T-units FFM	.167	.167
2	Length	.196	.029
3	Words/Clause	.205	.009
4	% Words FFM	.218	.013
5	Clauses/T-unit	.219	.001
6	Words/T-unit	.220	.001

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